

Medical Affairs Policy & Procedure

Title/Service: Magnetic Resonance Imaging (MRI) of the Spine

Revised	
Reviewed	04/24/09, 04/28/10, 09/16/2011
Developed	04/24/09
Policy Committee Approval	09/16/2011

Description:

Magnetic Resonance Imaging (MRI) is an imaging technique used to evaluate the internal structures of the body. MRI provides improved visualization of the different soft tissues of the body when compared to other imaging techniques. Differentiating between bony and different soft tissues is especially useful when evaluating the spine.

Indications of Coverage:

MRI of the spine is considered medically necessary when any of the following conditions are documented:

- A. **Neck and back pain** due to a condition of the spinal cord (myelopathy), nerve root (radiculopathy), or cauda equina with at least one of the following conditions:
1. Abnormality of gait (antalgic, ataxic, limping, spastic, severely uncoordinated)
 2. Positive Babinski sign (when the great toe flexes toward the top of the foot and the other toes spread apart) or Hoffmann sign (flicking the nail of the third finger causes flexion of the other fingertips or thumb tips)
 3. Significant or progressive sensory or motor deficits
 4. For either chronic neck/back or extremity (arm or leg) pain with a positive nerve root tension sign (for example, Spurling's or straight leg raise) when ordered by a neurologist, orthopedist, physiatrist, rheumatologist, or surgeon following a physical exam/evaluation due to lack of symptom improvement despite a minimum of six weeks of conservative treatment (activity moderation, analgesic or anti-inflammatory medications) when the symptoms cause significant interference with daily activities.
 5. Severe, disabling neck/back pain requiring urgent medical care that is unresponsive to high-dose analgesics
 6. Bladder and bowel dysfunction where other causes have been ruled out

7. Repeated involuntary muscular contractions (for example, clonus, hyperreflexia, spasticity)

B. Traumatic spinal injury with at least one of the following conditions:

1. Suspected craniocervical (C1 – C2) injury
2. X-rays show abnormal spine motion or a vertebral body abnormality, dislocation, or fracture
3. Severe acute trauma (for example, fall from a height or significant motor vehicle accident) to the spine with negative x-ray exam with paresthesias (for example, numbness or tingling) of the extremities

C. Evaluation of a known vertebral or intraspinal neoplasm (benign tumor, primary tumor, or metastatic tumor) or a suspected vertebral or intraspinal neoplasm with localized neck or back pain and at least one of the following conditions:

1. Unexplained weight loss
2. Primarily nocturnal pain
3. Rapidly progressing weakness
4. Positive bone scan
5. Spasticity
6. Bowel or bladder dysfunction
7. When ordered by a spinal surgeon prior to surgery for further definition of an abnormality previously identified on CT scan
8. Abnormal plain x-ray films suggestive of neoplasm

D. Suspected infection involving the spine (for example, discitis, epidural abscess, osteomyelitis) and at least one of the following conditions:

1. Fever
2. Elevated erythrocyte sedimentation rate (ESR)
3. Recent history of invasive procedure/surgery (especially spinal surgery)
4. Positive bone scan
5. Individual with a compromised immune system due to disease, medication, transplant status, or radiation treatment

6. History of intravenous drug use
- E. Persistent or progressive **focal neurologic deficits** including loss of reflexes, asymmetric reflexes, severe muscle weakness or atrophy, sensory loss in a dermatomal pattern, and bladder or bowel dysfunction where other causes have been ruled out
- F. Prior to any **surgery involving the spine** when at least one of the following conditions is documented:
1. The presence of a resectable vertebral or intraspinal neoplasm
 2. A history of spinal surgery where repeat surgery is treat significant new pain symptoms that are unrelated to residual post-operative pain
- G. Evaluation of the spine and/or spinal cord in individuals with **rheumatoid arthritis** and at least one of the following conditions:
1. Evidence of a spinal cord/spinal nerve root condition
 2. X-ray documentation of atlantoaxial (the joint between the first and second cervical vertebrae) subluxation (dislocation, displacement) or impaction (compression)
- H. Suspected **transverse myelitis** (inflammation of the spinal cord) in individuals with a sudden onset of a sensory, motor, or autonomic nerve abnormality at a specific level of the spine
- I. Diagnosis or follow-up of **multiple sclerosis** when there has been a change in symptoms or to evaluate any changes due to a change in medication
- J. Evaluation of **congenital abnormalities** (for example, Arnold Chiari malformation, dysraphism, or neural tube defect) or developmental deformities of the spine (for example, scoliosis or spondylolisthesis) when treatment (either non-invasive or invasive) is being considered
- K. When x-rays alone are insufficient for the management of the individuals and **iodinated contrast agents are contraindicated** (for example, due to allergy)

Limitations of Coverage:

- A. Review contract and endorsements for exclusions and prior authorization or benefit requirements.
- B. If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental or investigative.

- C. If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.
- D. An MRI in the presence of metal fragments or non-titanium hardware in the anatomical region being imaged is considered not medically necessary as the MRI will typically be non-diagnostic.
- E. A repeat MRI to the same anatomical region is considered not medically necessary without documentation of a significant change in symptoms or condition (for example, new injury or illness), since repeat MRIs at this frequency are not necessary.

Documentation Required:

- Office notes
- MRI report

Rationale:

MRI is a commonly used non-invasive imaging technique used primarily for the diagnosis of medical conditions involving the internal structures of the body. MRIs of the spine are performed for a variety of indications to evaluate conditions of the spine. Numerous professional organizations have created guidelines for the use of spinal MRI to limit their use to the most appropriate indications.

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Approved by the Medical Director